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Special Issue on

Advanced Nano/Microporous Materials for Energy Storage 2024

CALL FOR PAPERS

Porous nano/microstructured materials provide a large surface area to volume ratio, tunable physical and chemical properties, size distribution, surface topology, and crystallinity. Due to these characteristics, these materials have been extensively studied for many years for energy-related applications, such as energy storage, solar cells, supercapacitors, and lithium-ion batteries.

Academics and researchers are facing a significant challenge today to develop media that can store energy in a reliable, efficient, sustainable and affordable manner at ambient temperature and pressure. The increased emission of different types of gases into the atmosphere has led to global warming, causing climate change to worsen. The situation will only worsen if these gas emissions are not reduced. The use of fossil fuels in power generation and seawater desalination plants is a significant contributor to the continuing rise in anthropogenic emissions. Therefore, it is crucial to develop new materials that can store more energy efficiently to mitigate the effects of climate change.

This Special Issue focuses on the use of nanomaterials and micromaterials for energy storage in nanotechnology, physics, chemistry, and engineering. We invite researchers to submit original research articles and review articles on the development of different types of materials to store energy efficiently. The goal is to find solutions to the challenges posed by the depletion of fossil fuels and the effects of global warming.

Potential topics include but are not limited to the following:

- Synthesis and characterization of nanomaterials storage and applications of renewable energy
- Applications of nanostructured materials in energy storage
- Hydrogen storage in nanomaterials
- Synthesis, characterization, and applications of metal-organic frameworks (MOFs), polymers, and zeolites
- Nanomaterials for lithium-ion batteries
- Applications of nanostructured materials in drug delivery and tissue engineering
- Advanced energy storage technologies
- Metal hydride and alloy-based energy storage materials

Authors can submit their manuscripts through the Manuscript Tracking System at https://review.wiley.com/submit?specialIssue=916612.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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